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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/966,510 | 09/28/2001 | Tomoyuki Ishii | 1307.65742 | 7411 |

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Patrick G. Burns
Greer, Burns & Crain, Ltd.
Suite 2500
300 South Wacker Drive
Chicago, IL 60606

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| EXAMINER |
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AWAD, AMR A

| ART UNIT | PAPER NUMBER |
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| 2675 | 6 |

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/966,510

Applicant(s)
Ishii et al.

Examiner
Amr Awad

Art Unit
2675



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 31, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-27 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 21-31 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claim 1 recites "wherein said at least one first discharge sustaining pulse and said at least one second discharge sustaining pulse are applied such that a current in said first pair of display electrodes flows in the opposite direction from a current in said second pair of display electrodes". Such limitation was never mentioned in the specification or in the original claimed of the parent application, which raises new matter situation. A clarification is respectfully requested. Similar recitation is cited with respect to claims 24-25.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 22- 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

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the invention. claim 23 recites “both of said sets...” in line 4. Such recitation lacks anteceded basis because what was previously cited is a set of first discharge (in line 3) which means that only one set is claimed. The recitation “both of said sets..” implies that two sets is recited which also not correct according to the first recitation in line 3 of the claim. Similar problems are found with respect to the citation of “applying a set of second discharge...” in lines 6-9 of the claim. Lines 9-1- recite “said first set of discharge.....and said second set of discharge..”. this recitation lacks anteceded basis because what is previously recited is “a set of first discharge” and “a set of second discharge” which render the claim indefinite.

Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanazawa(US patent NO. 5,436,634 provided by the Applicant) in view of Hirayama et al. (US patent NO. 4,296,357; hereinafter referred to as Hirayama, also provided by the Applicant).

Kanazawa (figure 17) teaches a method of driving a plasma display (15) having a plurality of X-electrodes, Y-electrodes, and address electrodes. the X-electrodes and Y-electrodes being

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arranged in parallel to each other, and that each Y-electrode arranged between adjacent two of the X-electrodes, and the address electrodes being arranged with intersecting X and Y electrodes at a distance; see abstract, column 9, lines 22-28, and column 11, lines 24-30. Kanazawa teaches the step of displaying by discharging between each of the Y-electrodes and one of the X-electrodes adjacent thereto on one side, and displaying by discharging between each of the Y-electrodes and another X-electrode; see figures 5, 6, and 11.

Kanazawa does not teach having an opposite current discharge direction.

Hirayama (figure 1) teaches a plasma display system wherein the flowing of current in an opposite direction; see column 4, lines 12-23.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Hirayama's teaching of having the current flowing in pairs sustaining electrodes having opposite direction to Kanazawa's display device so as to help improving the turn-on characteristics of a display; see abstract.

7. Claims 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanazawa in view of Shinoda et al. (US patent NO. 4,737,687; hereinafter referred to as Shinoda, provided by the Applicant).

Kanazawa (figure 17) teaches a method of driving a plasma display (15) having a plurality of X-electrodes, Y-electrodes, and address electrodes. the X-electrodes and Y-electrodes being arranged in parallel to each other, and that each Y-electrode arranged between adjacent two of

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the X-electrodes, and the address electrodes being arranged with intersecting X and Y electrodes at a distance; see abstract, column 9, lines 22-28, and column 11, lines 24-30. Kanazawa teaches the step of displaying by discharging between each of the Y-electrodes and one of the X-electrodes adjacent thereto on one side, and displaying by discharging between each of the Y-electrodes and another X-electrode; see figures 5, 6, and 11.

Kanazawa does not teach that the phase of the two electrodes adjacent to each other in the first and second pair are in the same phase to each other.

However, Shinoda (figure 1) shows a plasma display panel that includes X and Y sustaining electrodes parallel to each other. Shinoda (figures 6-7) shows that the two electrodes (for example Y1 and X1) adjacent to each other and divided in two pairs) are in the same phase (see for example figures 7e and 7f) (col. 6, lines 55-68).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Shinoda having the two electrodes of two pairs having the same phase to be incorporated to Kanazawa's device so as to provide a stably addressed three-electrode type plasma display and to assure the elimination of wall charge in display cell) (col. 7, lines 19-26).

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanazawa and Hirayama as applied to claim 21 above, and further in view of Shinoda.

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As can be seen above, Kanazawa and Hirayama teach all the limitations of claim 22 except the citation of having the phase of the two electrodes adjacent to each other in the first and second pair are in the same phase to each other.

However, Shinoda (figure 1) shows a plasma display panel that includes X and Y sustaining electrodes parallel to each other. Shinoda (figures 6-7) shows that the two electrodes (for example Y1 and X1) adjacent to each other and divided in two pairs) are in the same phase (see for example figures 7e and 7f) (col. 6, lines 55-68).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Shinoda having the two electrodes of two pairs having the same phase to be incorporated to Kanazawa's device so as to provide a stably addressed three-electrode type plasma display and to assure the elimination of wall charge in display cell) (col. 7, lines 19-26).

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanazawa and Shinoda as applied to claim 23 above, and further in view of Hirayama.

As can be seen above, Kanazawa and Shinoda teach all the limitations of claim 25 except the citation of having an opposite current discharge direction.

Hirayama (figure 1) teaches a plasma display system wherein the flowing of current in an opposite direction; see column 4, lines 12-23.

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Hirayama's teaching of having the current flowing in pairs sustaining electrodes having opposite direction to Kanazawa's display device so as to help improving the turn-on characteristics of a display; see abstract.

Response to Arguments

10. Applicant's arguments filed October 31, 2003 have been fully considered but they are not persuasive.

Applicant (page 8) argued that the claimed feature "such that a current in said first pair of display electrodes flows in the opposite direction from a current in said second pair of display electrodes" is supported, for example, by the present specification, page 38, lines 15-20, and FIGS 4 and 7. Examiner respectfully disagrees. The examiner submits that the entire specification does not include any mentions of the word current. The long explanation provided by the Applicant would not be understood to one skilled in the art from the description of the specification. In fact, the Applicant needed a reference figure to present the limitations. The current I1, I2 and I0 were never introduced in the specification.

Applicant (middle of page 9) argued that there is no lacks of antecedent basis because the claim recites "a set of first discharge sustaining pulses to each electrode in a first pair of said display electrode". Examiner respectfully submits that having a set of first discharge sustaining pulses to each electrode in a pair does not automatically means that there are two sets of

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discharge sustaining pulses, simply because the pair of electrodes may have the same set of first discharge sustaining pulses.

Applicant (bottom of page 9 and top of page 10) argued that Kanazawa does not teach the step of displaying by discharging between each of the Y-electrodes and one of the X-electrodes adjacent thereto on one side, and displaying by discharging between each of the Y-electrodes and another X-electrode. Examiner respectfully disagrees. This claim language is similar to the claim language originally presented in the parent application (08/690,038), and in a phone interview with the Applicant's representative, the Examiner stated that the language of the claim does not specifically show that the discharge is between the same Y electrode and another adjacent X electrode. Accordingly the claims were amended and the claims were allowed. Furthermore, claims 21 and 24 do not recite such limitation. The claims rather directed to discharging between adjacent X and Y electrodes which is taught by Kanazawa as indicated in the Office Action above.

Applicant ((second half of page 10) argued that Hirayama does not teach a plasma display system wherein the flowing of current is in an opposite direction. However, the reference clearly teach such limitation.

Applicant (middle of page 11) argued that Shinoda in figures 6 and 7, does not show that the phase pf pulses applied to electrode Y1 is the same as that of pulses applied to electrode X1. Examiner respectfully disagrees because figure 6 shows that A2-Y1 and X2-Y2 having the same phase which reads on the claimed limitation.

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Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. **Any response to this final action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amr Awad whose telephone number is (703) 308-8485. The examiner can normally be reached on Monday--Friday from 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Saras, can be reached on (703) 305-9720.

A handwritten signature in black ink, appearing to read "Amr A. Awad". The signature is fluid and cursive, with a large loop at the end.

Amr A. Awad

Patent Examiner

January 13, 2004.